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10/743,673	12/22/2003	Jerry P. Honstein	MM3-192	2509

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EXAMINER
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STOKES, CANDICE CAPRI

ART UNIT	PAPER NUMBER
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3732

DATE MAILED: 01/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/743,673

Applicant(s)

HONSTEIN ET AL.

Examiner

Candice C. Stokes

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 14 June 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-57 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 33-41 and 48-51 is/are allowed.
- 6) ☒ Claim(s) 1-32, 42-45 and 52-57 is/are rejected.
- 7) ☒ Claim(s) 46 and 47 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 June 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Specification***

The abstract of the disclosure is objected to because Applicant states on page 41, lines 34-35 “the function of ribs 629 is described disposed parallel to lower plate surface 623”, however no further reference to ribs is found in the specification. Correction is required. See MPEP § 608.01(b).

### ***Drawings***

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: Reference numerals 440,552,557, and 567 are not shown. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

Claim 4 is objected to because of the following informalities: “said upstanding perimeter wall” should be “said upstanding peripheral wall”. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

Claims 1-27 are rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure, which is not enabling. Internal flanges critical or essential to the practice of the invention, but not included in the claim(s) is not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976). The internal flanges are considered critical because they provide the opening after the break-away panel is removed.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1) Claims 42-43 are rejected under 35 U.S.C. 102(b) as being anticipated by Windish (USPN 3,059,336). Windish discloses a slide receptacle 12 for releasably holding a full-arch dental model tray and cast 14 and attaching the receptacle to an arm of an articulator apparatus 10. said slide receptacle 12 comprising; a base plate(best shown in Figure 2 defined by the space between the flanges 46); means for releasably attaching 46 a dental model tray containing a dental model cast 14 to said base plate, means for releasably attaching 26 said base plate to an arm of an articulator apparatus 10; and whereby said dental model cast 14 is repeatedly fixable in a pre-determined position on said articulator arm for occlusal relationship to an opposing arch,

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without requiring application of plaster or other attachment means to said tray, and whereby said tray is removable from said receptacle 12 and connectable via hinge coupling means to comprise with an opposing dental model cast in an opposing tray an articulatable full-mouth dental model not requiring use of said articulator apparatus. As to Claim 43, the slide receptacle 12 having means for releasably attaching 46 a dental model tray to said base plate is further defined as comprising in combination: a horizontally disposed abutment flange 46 which protrudes from a perimeter wall of said base plate of said tray; and means 47 attached to said base plate for frictionally engaging said abutment flange in response to sliding lower surface of said tray on an upper surface of said base plate.

2) Claims 52-57 are rejected under 35 U.S.C. 102(e) as being anticipated by Jung et al (US 2004/0013998). Jung et al disclose a dental modeling tray 12 for molding dental models, the improvement comprising providing at least one protuberance 56 which protrudes upwardly into an upper well portion 14 of said tray 12 adapted to receive molding material, whereby a dental model molded from molding material introduced into said well 14 has formed in a base portion of said cast an upwardly protruding indentation having a shape complementary to that of said protuberance 56, said indentation being of an appropriate size and shape to serve as a pilot indentation for guiding into said base a point of a drill bit used to form in said base a bore for receiving a manipulating pin. This also anticipates Claim 55. As to Claims 53 and 56, said protuberance 56 is located generally midway between longitudinally disposed sides of said upper well 14. Regarding Claims 54 and 57, said protuberance 56 is further defined as being a longitudinally elongated rib which is parallel to said longitudinally disposed sides of said upper well 14.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1) Claims 1-7,11,and 15-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cho (USPN 6,019,601) in view of Cho (USPN 5,913,681). Cho ('601) discloses a molding tray 18 for use in making a dental prostheses model from an impression mold having formed therein imprints of a patient's teeth, said molding tray comprising: an elongated hollow body having a lower surface 22, a peripheral wall (formed by front 28, rear 30m left 24, and right 26) which circumscribes a hollow interior space of said body and protrudes perpendicularly upwardly from said lower surface and which terminates in an upper surface (as best shown where line of 30 ends)parallel to said lower surface; at least one pair of opposed internal flanges 58,60 disposed between inner facing wall surfaces of said peripheral wall, said flanges 58,60 having generally flat, co-planar upper surfaces which are parallel to said upper surface of said body, said flanges having between opposed inner facing edges thereof a longitudinally elongated aperture (when 56 is disengaged), and forming between upper and lower surfaces of said body and inner wall surfaces of said upstanding peripheral wall of said body, upper and lower wells (see Figures 2 and 3), respectively; openable means 56 for sealing said aperture to thereby form with said flanges 58,60 a temporary base wall for said upper well which is capable of receiving and holding a liquid cast- forming, molding material such as plaster-of-Paris or liquid die stone; a plurality of longitudinally spaced apart protuberances 42,44 which protrude inwardly from

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inner surfaces of opposed sides of at least an upper portion of said peripheral wall of said body adjacent to said upper well, said protuberances 42,44 alternating with grooves formed between said protuberances, and e. whereby liquid die stone is introducible into said upper well and hardened to comprise a base of a dental model cast, said openable means 56 for sealing said flange aperture opened, an upwardly directed force (see column 5, lines 39-43) is exerted on said base of said dental model cast to thereby eject said cast from said molding tray. The Cho('681 patent) teaches said dental model cast is segmented into individual die segments 47,47',47'', selected ones of which optionally have a manipulating pin inserted into bores thereof, and said die segments 47,47',47'' re-inserted into said upper well of said tray to predetermined horizontal index positions enabled by engagement of said protuberances and grooves of said tray with complementarily shaped grooves and protuberances molded into sides of said bases of said die segments. and to predetermined vertical index positions enabled by abutment of lower surfaces of said die segments 47,47',47'' with upper surfaces of said flanges, said lower well of said tray 18 being of sufficient depth to position lower surfaces of said manipulation pins above said lower surface of the tray (see column 4, lines 43-52). As to Claims 2-3, Cho ('601 patent) discloses in Figure 1 said upper and lower wells have approximately equal depths, measured from said upper surface of said peripheral wall to said upper surfaces of said flanges, and said lower surface of said peripheral wall to said lower surfaces of said flanges, respectively; and the lower well having a shape generally symmetric to that of said upper well. As to Claim 4, said upstanding peripheral wall is further defined as including a pair of longitudinally elongated, spaced apart longitudinal parallel wall segments 24,26 and at least one transverse end wall segment 28,30 disposed transversely to said longitudinal wall segment 24,26. Regarding Claim

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5, said longitudinal and transverse end wall segments 24,26 & 28,30 comprise a peripheral ring 22, which encircles said upper and lower wells. Regarding Claim 11, said openable means 56 for sealing said aperture bordered by inner facing edge walls of said flanges 58,60 is further defined as being an insert lodgeable in said aperture. As to Claim 15, the molding tray 18 further includes at least two abutment flanges (as best shown in Figure 1 projecting out from the bottom of each tray), one each of which protrudes radially outwardly from each of two sides of said peripheral wall of said tray. The molding tray also includes releasable attachment means 128,144 for releasably attaching said tray 18 to a second of said trays 20. This anticipates Claim 16. Further regarding Claim 17, said releasable attachment means 128,144 is further defined as comprising in combination a bracket 128 protruding outwardly from a side of said peripheral wall of said body, and a hinge mechanism means 144 for pivotably coupling said bracket 128 of said tray 18 to a bracket 130 of a second tray 120 to thereby enable pivotable relative motion between said trays 18,20 in a plane perpendicular to upper edge walls (as best shown where the line 30 ends) of said trays 18,20. Further to Claim 18, said bracket 128 is further defined as protruding perpendicularly outwardly from a transversely disposed one of said abutment flanges 132. As to Claim 19, said protuberances 42,44 and grooves are disposed perpendicularly to said upper surface (where line 30 ends) of said elongated hollow body of said tray 18. Regarding Claim 22, said grooves (between the protuberances) are wider than said protuberances 42,44. With respect to Claim 23, Figures 2 and 3 show the molding tray 18 wherein said upstanding peripheral wall of said hollow body has a longitudinally elongated, generally rectangular plan-view shape. As to Claims 24 and 25, said peripheral wall of said hollow body has in plan-view a shape approximating that of a semi-ellipse (as shown in Figures 11 and 12) and said upper and



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lower wells each have in plan-view the shape of a semi-elliptical sector. Regarding Claim 26, said peripheral wall includes a generally vertically disposed, semi-elliptically curved outer longitudinal wall segment 86, a semi-elliptically curved inner longitudinal wall segment 86 spaced radially inwardly of and parallel to said outer wall segment 86, and a transversely disposed peripheral wall segment 92 which coincides with a minor axis of a semi-elliptical plan-view trace of said peripheral wall. To Claim 27, Cho ('601 patent) also disclose the molding tray further including a semi-elliptically shaped web section 93 which joins inner facing vertical surfaces of said transverse and said inner longitudinal wall segments. Cho ('601 patent) disclose a device 72 for detaching a break-away panel part of a dental model molding tray 18 from a hollow body part of said tray which encloses said break-away panel, said break-away panel being located between and parallel to upper and lower surfaces of said body of said molding tray and being joined by frangible members to horizontally aligned flange walls which protrude inwardly towards said panel from inner sides of a peripheral wall of said hollow tray body, said device 72 including: a template (as shown in Figure 6) comprising a body which includes; a base 62; a peripheral flange wall 60,68 which protrudes upwardly from said base; a recess 64 formed between an upper surface of said base 62 and inner surfaces of said peripheral flange wall 66,68, said recess 64 being of a proper size and shape to vertically downwardly receive therein said hollow body of said tray 18, with said lower surface of said tray body parallel to and above said upper surface of said template base 62, and with outer upstanding surfaces of said tray perimeter wall adjacent to said inner facing upstanding surfaces of said tray per peripheral flange wall of said template; and at least one rib-shaped lug 70 which protrudes upwardly from said upper surface of said template base 62, said lug 70 having a flat upper surface which is located a

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greater distance above said upper surface of said template base 62 than the distance between a lower surface of said hollow tray body whereby said lug 70 supports said break-away panel 56 to thereby locate said lower surface of said hollow tray body above said upper surface of said template 62; and force exerting means 72 for exerting a downwardly directed force on said body of said tray relative to said template 62, whereby a reaction force is exerted upwardly on said break-away panel 56 relative to said tray body sufficient to break said frangible members joining said break-away panel to said flanges (see column 5, lines 60-66). With regards to Claim 29, said tray 18 is further defined as having protruding outwardly from an outer surface of at least a portion of said peripheral wall of said tray body at least a first abutment flange 134,136. As to Claim 30, said force exerting means 72 is further defined as including a knockout tool (see figure 7 of '601 patent) which has a lower abutment flange-contacting member 74,76 for contacting an upper surface of said abutment flange 78,80 of said tray 18, and an upper anvil surface rigidly coupled to said flange-contacting member and adapted to receive a downwardly directed impact. As to Claim 31, said recess 64 of said template is further defined as having a rectangular plan-view shape (see Figure 6). Regarding Claim 32, said recess 64 of said template is further defined as having in plan-view the shape of a semi-ellipse( see Figure 12). It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the individual die segments teaching of Cho ('681 patent) into the tray disclosed by Cho ('601 patent) in order to provide a means of dividing the cast into segments for ease of manipulation by the dentist.

As to Claims 6 and 7, said flanges 58,60 are further defined as including at least a first pair of opposed longitudinal flanges which protrude inwardly towards one another from inner

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surfaces of longitudinally disposed peripheral wall of said segments,. Further said openable means 56 for sealing said aperture bordered by inner facing edge walls of said flanges is further defined as comprising in : combination at least one break-away panel within said aperture which is joined at outer peripheral edges thereof to inner peripheral edges of said flanges by frangible members. Cho ('601 patent) and Cho ('681 patent) fail to disclose at least one transverse flange, which protrudes inwardly towards from an inner surface of a transversely disposed segment of said peripheral wall. It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate at least one of flanges 58,60 transversely to the other flanges, since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japiske*, 86 USPQ 70.

Regarding Claims 20-21, Cho ('601) and Cho ('681) disclose the claimed invention except for the grooves being an inverted wedge shape and the protuberances having a triangular shape. It would have been an obvious matter of design choice to make the grooves and protuberances of any desired shape, since such a modification would have involved a mere change in the shape of a component. A change in the shape is generally recognized as being within the level of ordinary skill in the art.

2) Claims 8-10 and 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cho ('601) in view of Cho ('681) and in further view of (Jung et al (US 2004/0013998). Cho ('601) and Cho ('681) disclose the claimed invention except for the break-away panel providing a protuberance protruding upwardly from the upper surface of the break-away panel. Jung et al teaches a break-away panel is further defined as being provided with at least one protuberance 56 which protrudes upwardly from an upper surface of said break-away panel into said upper well,

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whereby a dental model cast formed from liquid die stone poured into said well has formed in a base portion of said cast an upwardly protruding indentation having a shape complementary to that of said protuberance 56, said indentation being of an appropriate size and shape to serve as a pilot indentation for guiding into said base a point of a drill bit used to form in said base a bore for receiving a manipulating pin. As to Claim 9, said protuberance 56 is located generally midway between longitudinally disposed sides of said upper well. With regards to Claim 10, said protuberance 56 is further defined as being a longitudinally elongated rib which is parallel to said longitudinally disposed sides of said upper well. It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the protuberances as taught by Jung et al into the device disclosed by Cho ('601 and '681) in order to provide a means for making impressions within the dental cast to provide guidance for drilling into the cast.

3) Claims 44-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Windish. Windish discloses the claimed invention except for the base plate being semi-elliptical. Windish does disclose the slide receptacle 12 further including a plurality of indexing members 46, which protrude downwardly from a lower surface of said base plate. It would have been an obvious matter of design choice to make the base plate of any shape that could hold a dental tray or cast, since such a modification would have involved a mere change in the shape of a component. A change in shape is generally recognized as being within the level of ordinary skill in the art.

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*Allowable Subject Matter*

Claims 33-41 and 48-51 are allowed.

Claims 46-47 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

*Conclusion*


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Candice C. Stokes whose telephone number is (571) 272-4714. The examiner can normally be reached on 8:00am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin Shaver can be reached on (571) 272-4720. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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